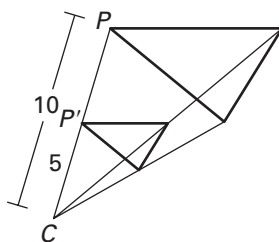


LESSON
9.7**Practice A**

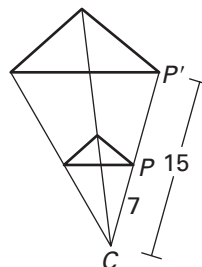
For use with pages 625–633

Find the scale factor. Tell whether the dilation is a *reduction* or an *enlargement*.

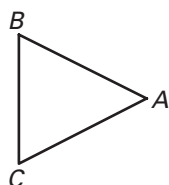
1.



2.



3. Copy $\triangle ABC$. Then construct a dilation of $\triangle ABC$ with point A as the center of dilation and a scale factor of 2.



Simplify the product.

4. $2 \begin{bmatrix} -4 & 3 & -2 \\ 1 & 7 & 0 \end{bmatrix}$

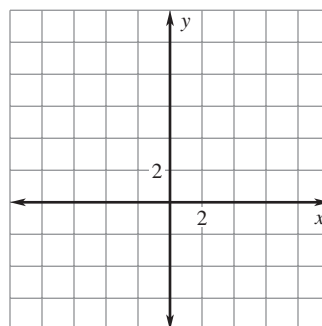
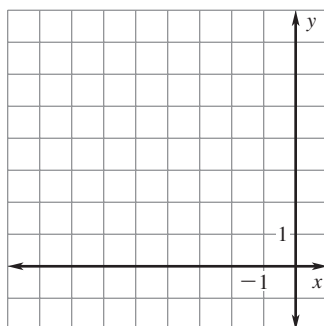
5. $\frac{2}{3} \begin{bmatrix} 6 & -9 & 0 \\ 12 & 4.5 & -6 \end{bmatrix}$

6. $-3 \begin{bmatrix} 0 & -11 & -2 \\ 1 & 8 & 7 \end{bmatrix}$

Find the image matrix that represents a dilation of the polygon centered at the origin with the given scale factor. Then graph the polygon and its image.

7. $\begin{bmatrix} A & B & C \\ -6 & -4 & -2 \\ 2 & 4 & 2 \end{bmatrix}; k = \frac{1}{2}$

8. $\begin{bmatrix} A & B & C & D \\ -3 & -2 & 0 & 3 \\ -2 & 1 & 3 & 4 \end{bmatrix}; k = 2$

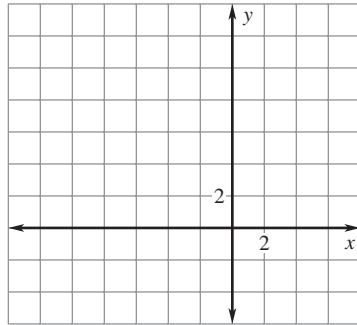


LESSON
9.7**Practice A** *continued*
For use with pages 625–633

The vertices of $\triangle ABC$ are **A(1, 2)**, **B(5, 4)**, and **C(7, 1)**. Graph the image of the triangle after a composition of the transformations in the order they are listed.

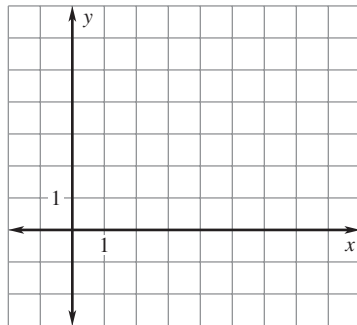
9. **Translation:** $(x, y) \rightarrow (x - 7, y)$

Dilation: centered at the origin with a scale factor of 2



10. **Dilation:** centered at the origin with a scale factor of $\frac{1}{2}$

Reflection: in the x -axis



In Exercises 11 and 12, use the following information.

Flashlight Image You are projecting images onto a wall with a flashlight. The lamp of the flashlight is 10 centimeters away from the wall. The preimage is imprinted onto a clear cap that fits over the end of the flashlight. The preimage has a height of 2 centimeters and the lamp of the flashlight is located 2.5 centimeters from the preimage.

11. What is the scale factor of the dilation?
12. Write and solve a proportion to find the height of the image projected onto the wall.

